# Circulation Element

## City of Solana Beach General Plan Program

CITY OF SOLANA BEACH, CALIFORNIA
1986

# SOLANA BEACH GENERAL PLAN
# CIRCULATION ELEMENT

**Solana Beach City Council**
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# CIRCULATION ELEMENT

## 1.0 INTRODUCTION

The City of Solana Beach Circulation Element has been developed in response to issues raised and goals, policies, and objectives established by the consultant team and General Plan Advisory Committee. It is intended to provide a balanced circulation system that will provide adequate capacity to support the travel demands of the land uses included in the Land Use Element while at the same time maintaining an acceptable quality of life for the residents of Solana Beach.

### 1.1 OVERVIEW

#### 1.1.1 Contents of Element

The Circulation Element is divided into four sections: (1) Introduction; (2) Existing Conditions/ Issues Analysis; (3) Goals, Objectives, and Policies; and (4) the Circulation Plan. The plan is intended to be responsive to the goals, objectives, and policies of the city in planning for its future growth while at the same time mitigating existing problems or concerns. The Circulation Element states general policy which will serve to guide the development of future, more detailed circulation system implementation programs.

#### 1.1.2 Key Issues

The key issues underlying the proposals included in the circulation element revolve around Solana Beach citizens' desires to preserve the quality of life in residential areas of the city while at the same time providing accessibility to and local routes around the Interstate 5 and Highway 101. The Circulation Element has been designed to reduce the level of traffic congestion experienced by residents by improving intersection capacity along Lomas Santa Fe Drive and working with adjacent jurisdictions to improve Via De La Valle.

#### 1.1.3 Overview of Goals. Objectives. and Policies

The Goals, Objectives, and Policies of the Circulation Element are presented in full in Section 3.0, but can be summarized as follows:

- Provide a street network to move people and goods safely and efficiently.
- Maintain a minimum Level of Service C at all intersections during non-peak hours and Level Of Service D (volume/capacity ratio of 0.90 or less) at all intersections during peak hours and Level of Service D for Interstate 5 as an element of the Regional Transportation Plan (RTP) to ensure that traffic delays are kept to a minimum.
- Promote a public transportation system that is safe, convenient, efficient, and meets the identified needs of the Solana Beach community.
- Promote safe alternatives to motorized transportation that meet the needs of all city residents.

- Provide an adequate supply of private off-street and public parking to meet the needs of residents and visitors to the city.

## 1.2 PURPOSE

Since the Circulation Element was first required by State law in 1955, transportation technology and needs in California have changed greatly, with the emphasis today on the development of a balanced, multi-modal transportation system. According to State law, the policies and plan proposals of the Circulation Element should:

Coordinate the transportation and circulation system with planned land uses;

- Promote the efficient transport of goods and the safe and effective movement of all segments of the population;
- Make efficient use of existing transportation facilities; and
- Protect environmental quality and promote the wise and equitable use of economic and natural resources.

The Circulation Element should cover the following to the extent that they pertain to the community:

- Streets and highways;
- Parking provisions;
- Transit and paratransit;
- Railroads;
- Air transportation; and
- Bicycle and pedestrian facilities.

The policies and plan proposals of the Circulation Element should be coordinated closely with those of the Land Use, Housing, and Noise Elements.

## 1.3 AUTHORIZATION

Under State planning law, each city must develop and adopt a comprehensive long-term general plan for the physical development of that city. Government Code Section 65302(b) states the following as the mandatory requirement for Circulation Element:

"A Circulation Element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the Land Use Element of the plan."

# 2.0 EXISTING CONDITIONS/ISSUE ANALYSIS

## 2.1 EXISTING CIRCULATION SYSTEM

### 2.1.1 Introduction

The City of Solana Beach, located along the central coast of San Diego County, is served by a network of roadways illustrated in Exhibit 1. The number of through lanes for existing roadways and the existing intersection controls are identified on Exhibit 1. A popular beach community, access to Solana Beach is possible through four primary corridors:

- Highway 101;
- Interstate 5;
- Lomas Santa Fe Drive; and
- Via De La Valle

These four corridors traverse the Solana Beach and surrounding communities in a north-south (Highway 101/I-5) and east-west (Lomas Santa Fe Drive/Via De La Valle) orientation, creating a grid network of roads. The network affords inter-regional connections to southern San Diego County, Orange, and Los Angeles counties, as well as access to surrounding communities along the coast and inland communities such as Rancho Santa Fe and Fairbanks Ranch. These four corridors could be utilized as emergency routes in case of a community disaster.

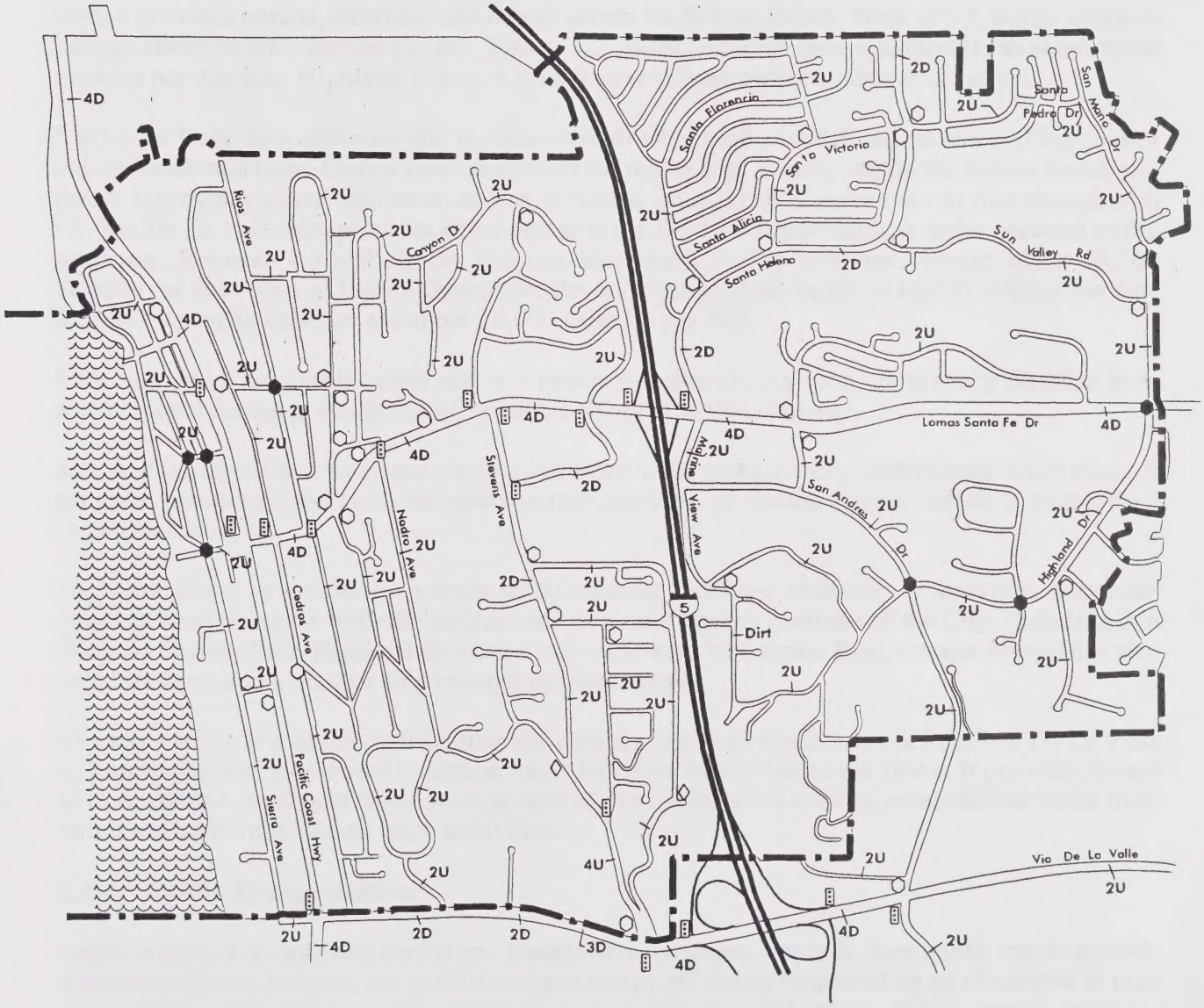
Solana Beach is likely to experience an increase in traffic demand due to growth within and around the city and due to increased commercial activity in the city, thus requiring preventive mitigation measures to alleviate future traffic problems.

### 2.1.2 Regional Facilities

There are two major corridors which traverse the city and serve significant levels of through traffic while providing regional access to Solana Beach.

- Interstate 5 is the major north-south interregional facility in the County, providing Solana Beach with direct access to Encinitas, Carlsbad, Oceanside, San Diego and other southern communities and to Orange and Los Angeles counties to the north. Bisecting Solana Beach, Interstate 5 is eight lanes. Local access is provided via interchanges with Lomas Santa Fe Drive and Via De La Valle. Existing (1997) average daily traffic on Interstate 5 in this vicinity is about 200,000 vehicles per day.

- Highway 101 is a four-lane major arterial. With its north-south orientation, it provides primary access to the numerous beaches and parks along the coast as well as connections to the communities of Encinitas, Carlsbad and Oceanside to the north and Del Mar to the south. It in also a popular route for bicyclists. Existing (1997) daily traffic volumes average about 18,000 vehicles per day.




N

0 500' 1000' 1500'

Yield Sign

Traffic Signal

Stop Sign

Four Way Stop

2 Number of Through Lanes

D Divided

U Undivided

# Exhibit 1
# Existing Through Travel Lanes and Intersection Controls

### 2.1.3 Key Arterials, Local Streets

Within the Solana Beach local circulation system, there are six significant facilities. These range in classification from major arterial to light collector streets as described below:

Lomas Santa Fe Drive is a four-lane divided road with full access and parking control. Running east-west, it provides coastal, interstate and inland access for Solana Beach. West of I-5, traffic volumes average about 24,600 vehicles per day. East of I-5, traffic volumes drop considerably to about 7,000 vehicles per day near Highland Drive. A bike lane is striped on both sides of the street.

Via De La Valle runs east-west and is a four-lane divided road with full access and parking control and on-street bike lanes. Only a small portion of the roadway is actually within the Solana Beach city limits. It provides inland and beach access as well as inter-regional access via an interchange with I-5. Via De La Valle also provides direct access to the Del Mar Fairgrounds, a major seasonal traffic generator. Between I-5 and Jimmy Durante Boulevard, traffic volumes average about 43,300 vehicles per day. West of Jimmy Durante Boulevard, average daily traffic is 16,600 vehicles per day. East of I-5, traffic volumes are about 20,000 vehicles per day.

Cedros Avenue runs north-south and is a two-lane collector. As such, its primary function is to provide local access to business and residents adjacent to this roadway.

San Andres Drive is a two-lane curving collector with an east-west, north-south orientation. It provides secondary access to the southeastern quadrant of Solana Beach, which is primarily a residential area.

Highland Drive is primarily a north-south running two-lane collector. It provides important neighborhood access in both the southeastern and northeastern portions of the City, including San Dieguito County Park. Highland Drive also intersects with El Camino Real, a major arterial that also provides access to a number of surrounding communities.

Stevens Avenue is a north-south commercial collector roadway which extends from Via De La Valle at Jimmy Durante Boulevard to Lomas Santa Fe Drive east of Glencrest Drive. It provides access to business and residential areas on either side of this roadway. Its existing cross-section varies from two lanes undivided to four lanes undivided.

### 2.1.4 Public Transportation

Public transit is an essential part of any transportation system. Not only does public transit provide added mobility to its users, but it also increases energy efficiency by providing an alternative to high automobile costs and to traffic congestion in highly traveled areas. Public transit provides environmental benefits such as reduced air pollution emissions. Combining all of the above features makes public transit not only essential, but a beneficial part of any transportation system.

Transit service in Solana Beach is provided by North County Transit, which operates daily service between Oceanside and San Diego along Highway 101and daily service between Cardiff Town Center and Escondido with stops along Lomas Santa Fe Drive, Stevens Avenue, Valley Avenue, and Via De La Valle.

### 2.1.5 Railroads

The North County Transit District rail line runs north-south through the City of Solana Beach, parallel to and east of Highway 101. AMTRAK rail-passenger service is provided between Los Angeles and San Diego via the Coast Line and utilizes the Solana Beach station. The North County Transit District rail line is also used for transit service provided by the "Coaster".

### 2.1.6 Bicycle Route System

The City of Solana Beach presently has three bicycle routes within its boundaries. These routes are on-road striped lanes along Highway 101, Via De La Valle, and Lomas Santa Fe Drive and are designated as Class II bicycle routes.

### 2.1.7 Air Transportation

There are no airport facilities within the City of Solana Beach. Scheduled commercial airline flights are available at the San Diego International Airport (Lindbergh Field) and at McClellan-Palomar Airport in Carlsbad.

## 2.2 IMPORTANCE OF SYSTEM

The circulation system of every city effects not only the movement of people and goods but also the physical, social, and economic environment of the city. The circulation system heavily influences the physical settlement patterns of a city, providing access to land uses, often determining their allowable densities and creating boundaries/separations between alternative land uses. Economic activities require circulation of people and goods, particularly commercial activities such as those in Solana Beach, and thus the viability of the community's economy can be directly affected by the Circulation Element.

No city, particularly one like Solana Beach which lies in the middle of the San Diego County coastline, is an island in its regional setting. The Circulation Element should therefore be coordinated with the regional transportation plan to provide regional continuity. Interstate 5 not only serves as the primary access route for travel to and from Solana Beach, but also as the primary connection between the Los Angeles metropolitan area and San Diego.

## 2.3 EXISTING PROBLEMS

The consultant team and General Plan Advisory Committee identified the following key issues that they felt should be addressed in the Circulation Element analysis:

- The interchange at Lomas Santa Fe Drive and Interstate 5 should be improved and the City should work with Caltrans to coordinate traffic signals on Lomas Santa Fe Drive.
- Impediments to vehicular circulation on Highway 101 should be minimized.
- The City should retain the right-of-way to extend Via La Senda as a means of reducing traffic congestion on Highland Drive.
- Vehicular capacity at the Via De La Valle interchange and for the roadway itself should be increased to reduce usage of other city streets by Del Mar Fairground trips.

- Cedros Avenue should have a uniform right-of-way.
- Consideration should be given to improving the current circulation pattern around the post office in an effort to reduce local congestion on Sierra Avenue.
- Methods to accommodate summer beach traffic should be developed.
- The potential for a bicycle trail on San Andres Drive and Highland Drive should be explored.
- The Scenic Highway designation for Highway 101 should be maintained.
- The need for traffic signals at various intersections should be explored.
- Methods to address traffic generated by local schools should be developed.
- Modifications to Highway 101 to avoid rainy season closures north of the City should be explored.

## 2.4 FUTURE TRAVEL DEMANDS

There is a close interrelationship between land use and transportation in that new land use development is the key determinant of increased traffic generation. New developments produce or attract traffic to them. The proposed land use plan will accommodate additional development which in turn will generate increased demand for travel within the City of Solana Beach. In addition, growth in San Diego County will similarly generate additional traffic which will increase the demand for travel through the City of Solana Beach.

### 2.4.1 Future Trip Generation

The most significant increase in potential trip-making in Solana Beach is attributable to the increased residential and non-residential development provided for in the land use plan. Residential units within the city are projected to increase from 6,245 dwellings to 6,536 dwellings upon buildout of the general plan. This increase represents approximately 4,200 additional daily vehicle trips on the street network.

Changes in non-residential land use designation. yield a reduction in office and industrial uses for general plan buildout conditions. However, commercial uses are projected to increase from 116.4 acres to 150.4 acres. This shift in land uses from office/industrial to commercial generates approximately 10,800 additional daily vehicle trips within the city.

Existing Solana Beach land uses generate about 150,000 daily vehicle trips. The total number of daily vehicle trips generated in the city is projected to increase by ten percent, increasing from 150,000 to 165,000 daily vehicle trips at build-out of the General Plan.

### 2.4.2 Increased Through Traffic

It is estimated that approximately two thirds (69 percent) of the traffic entering the city on Highway 101 in traffic which passes through Solana Beach without stopping. This equates to approximately 12,000 vehicles per day traveling through Solana Beach on Highway 101.

It is also estimated that approximately 94 percent of the traffic entering the city on Interstate 5 is traffic which passes through Solana Beach without stopping. This equates to approximately 146,000 vehicles per day traveling through Solana Beach on Interstate 5.

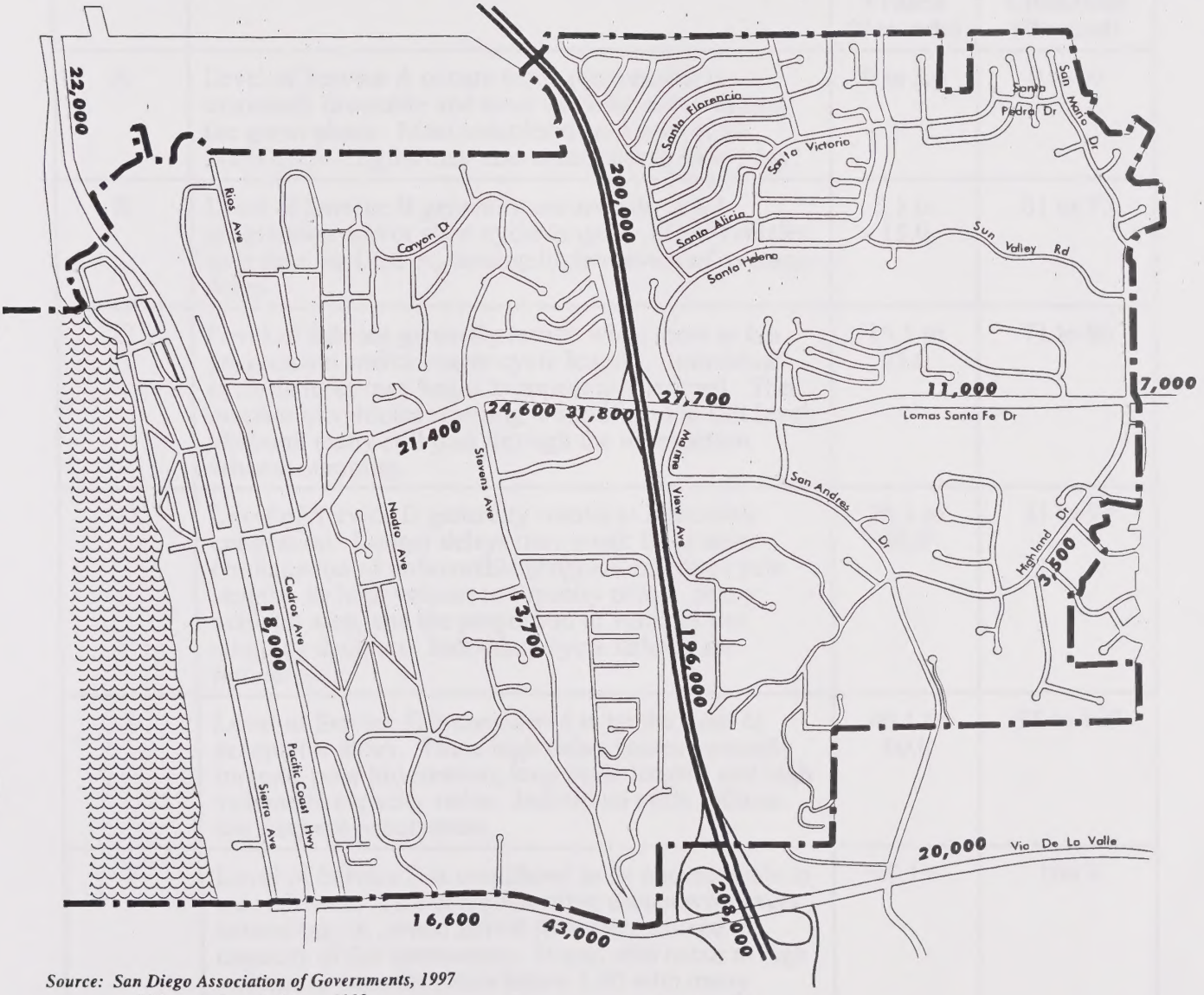
Significant amounts of through traffic are also present on segments of Lomas Santa Fe Drive and Via De La Valle, particularly west of Interstate 5. Between Jimmy Durante Boulevard and the freeway, about 16,000 through trips are estimated to use Via De La Valle on a daily basin.

The level of increase in through traffic on both Highway 101 and I-5 will largely be influenced by the level of growth in the entire coastline area of San Diego County.

## 2.5 CONSTRAINTS

### 2.5.1 Future Volumes

The addition of traffic which could be generated by the land uses included in the general plan, together with increased through traffic associated with regional growth, would increase traffic volumes on many streets in Solana Beach. Exhibit 2 shows 1997/1998 traffic volumes based upon the San Diego Association of Governments (SANDAG) and Linscott, Law & Greenspan data. Table 1 provides descriptions for the various levels of service. Exhibit 3 shows future volume projections for the city based upon the San Dieguito Community Planning Area traffic forecasts and estimates prepared by Kunzman Associates. The Circulation Plan presented in section 4.0 of this element identifies the improvements required to mitigate these impacts and accommodate the growth forecasts in the land use element.




*Source: San Diego Association of Governments, 1997 and Linscott, Law & Green, 1998*

N

0 500' 1000' 1500'

**X,XXX** Vehicles Per Day

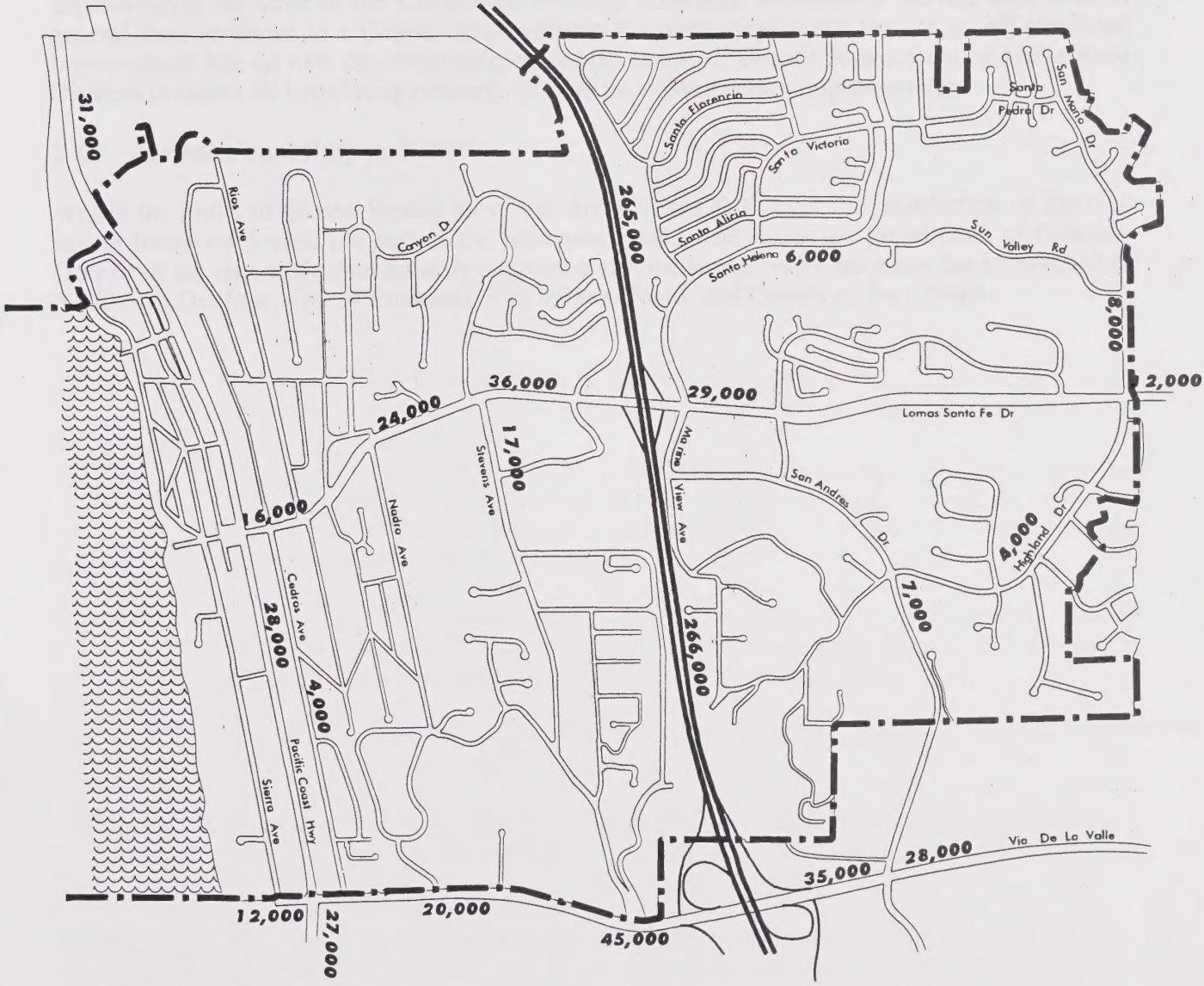
# Exhibit 2
# Existing Daily Traffic Volumes

**TABLE 1**
**LEVEL OF SERVICE DESCRIPTION**

| Level of Service | Description | Stopped Delay Per Vehicle (Seconds) | Intersection Capacity Utilization (Percent) |
|---|---|---|---|
| A | Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay. | 0 to 5.0 | 0 to 60 |
| B | Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay. | 5.1 to 15.0 | 61 to 70 |
| C | Level of Service generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping. | 15.1 to 25.0 | 71 to 80 |
| D | Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. | 25.1 to 40.0 | 81 to 90 |
| E | Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. | 40.1 to 60.0 | 91 to 100 |
| F | Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle length may also be major contributing causes to such delay levels. | 60.1 + | 100 + |

Source: "Highway Capacity Manual" Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 1985, Pages 9-4 to 9-5.

# TABLE 1
# LEVEL OF SERVICE DESCRIPTION




*Source: Kunzman Associates*

**X,XXX** Vehicles Per Day

N

0 500' 1000' 1500'

# Exhibit 3
# General Plan Traffic Buildout Forecasts

### 2.5.2 Fiscal Limitations

Many of the improvements included in the Circulation Element will have citywide and/or regional benefit and may need to be constructed prior to the development of the contiguous property. The city should develop alternate funding mechanisms to pay for the construction of circulation improvements included in the Circulation Element. Potential alternatives include allocation of general fund revenues to a Capital Improvement Program, implementation of an off-site Road Improvement Fee on new developments, or consideration of Benefit Assessment or Mello Roos Districts to assess all benefitting property owners for infrastructure improvements.

### 2.5.3 Jurisdictional Responsibilities

Within the limits of Solana Beach, all of the streets/roads fall under the jurisdiction of the city, except Interstate 5 which is part of the Interstate system and under the jurisdiction of Caltrans. Outside of the city, in the immediately adjacent areas, the streets/roads are under the jurisdiction of the City of Del Mar, City of Encinitas, City of San Diego, and County of San Diego.

# 3.O GOALS, OBJECTIVES, AND POLICIES

## GOAL 3.1

TO PROVIDE A STREET NETWORK TO MOVE PEOPLE AND GOODS SAFELY AND EFFICIENTLY

### Objective 1.0

Maintain a minimum Level of Service C at all intersections during non-peak hours and Level of Service D (volume/capacity ratio of 0.90 or less) at all intersections during peak hours and Level of Service D for Interstate 5 as an element of the Regional Transportation Plan (RTP) to ensure that traffic delays are kept to a minimum.

Policy 1.a The City shall establish street standards and all new road facilities shall be constructed or upgraded, where feasible, to meet city standards.

Policy 1. b The City shall require new developments to be served by roads of adequate capacity and design standards to provide reasonable access by car, truck, transit, or bicycle.

Policy 1.c The City shall require an adequate evaluation of potential traffic impacts associated with proposed new developments prior to project approval. Further, the city shall require the implementation of appropriate mitigation measures prior to or in conjunction with project development.

Policy 1.d The City shall develop a roadway system to complement urban development as established by the city's adopted general plan. In implementing this policy, the city shall explore possible road extensions and additional roadway links.

Policy 1.e The City shall pursue measures to reduce congestion at intersections and maintain levels of service as identified in Objective 1.0.

Policy 1.f The City shall cooperate with Caltrans to implement necessary improvements at intersections where the agencies have joint jurisdiction such as Lomas Santa Fe Drive at Interstate 5.

Policy 1.g The City shall explore methods to minimize traffic in the vicinity of the Del Mar Fairgrounds.

Policy 1.h The City shall endorse and support Interstate 5 interchange improvement projects with minimal environmental impact that provide more direct regional access to the Del Mar Fairgrounds.

Policy 1.i The City shall reserve and protect adequate right-of-way to accommodate future roadway widening projects.

Policy 1.j The City shall support the preparation of travel demand management plans to reduce peak hour commuter traffic impacts in areas with employment concentrations.

Policy 1.k The City Council shall review all projects which may result in any intersection level of service creating greater congestion than that described in Objective 1.0 and shall be responsible for determining required mitigation.

Policy 1.l The City shall implement a program of traffic signal synchronization coordinated with Caltrans to reduce congestion along Lomas Santa Fe between the eastern boundary of the City and Highway 101. In implementing this policy, City staff shall periodically (at least quarterly) review synchronization effectiveness and make necessary system adjustments.

Policy 1.m The City shall study the feasibility of realigning Stevens Avenue and Glencrest Drive to meet at Lomas Santa Fe Drive, focusing on efficient and safe movement of traffic and pedestrians (particularly school children). Included in this study will be an assessment of an overhead crossing. If the realignment is determined to be feasible from a cost/benefit standpoint, the City shall identify the realignment as a future capital improvement project.

Policy 1.n The City shall study and implement methods to reduce congestion caused by local school traffic.

Policy 1.o The City shall cooperate with efforts to study a realignment of Highway 101 in the north portion of the City and in Encinitas to reduce road closures during the rainy season.

**Objective 2.0**

Establish adequate measures to ensure traffic safety.

Policy 2.a The City shall enforce speed restrictions throughout the city.

Policy 2.b The City shall require that future roads and improvements to existing roads be designed to minimize conflicting traffic movements such as turning, curb parking, uncontrolled access, and frequent stops.

Policy 2.c The City shall ensure that the development of new private driveways do not pose significant traffic hazard. for major arterials and residential collector roads.

Policy 2.d The City shall require that pedestrian, bicycle, and vehicular traffic is separated to the maximum feasible extent.

Policy 2.e The City shall establish a master program of roadway improvements and an ongoing maintenance program to ensure the safety of its roadway system.

**Objective 3.0**

Preserve the quality of residential neighborhoods by maintaining the legally enforceable speed limits and by discouraging the flow of truck traffic and through traffic in these areas.

Policy 3.a The City shall enforce speed limits of 25 miles per hour in those areas defined by the California Vehicle Code as residential neighborhoods.

Policy 3.b The City shall establish designated truck routes located away from residential areas and prohibit trucks from traversing through residential neighborhoods.

Policy 3.c The City shall maintain adequate levels of service on major city streets pursuant to Objective 1.0 as measures to avoid diversion of through traffic into residential neighborhoods and adequate levels of safety pursuant to Objective 2.0.

**Objective 4.0**

Establish a capital improvements program which incorporates adequate funding for the City's roadway system.

Policy 4.a The City shall identify and evaluate potential revenue sources for financing roadway system development and improvement projects.

Policy 4.b The City shall pursue viable revenue sources to meet the roadway system funding needs.

Policy 4.c The City shall only implement street widenings when Transportation System Management Strategies, such as the removal of on-street parking, lane restriping, etc., have been exhausted.

**GOAL 3.2**

TO PROMOTE A PUBLIC TRANSPORTATION SYSTEM THAT IS SAFE, CONVENIENT, EFFICIENT, AND MEETS THE IDENTIFIED NEEDS OF THE SOLANA BEACH COMMUNITY.

**Objective 1.0**

Support a public transportation system and accommodate the mobility needs of transit-dependent persons.

Policy 1.a The City shall support establishment of transit operations when demand levels are sufficient to warrant such service.

Policy l. b The City shall support improved transit services for elderly and disabled persons.

**GOAL 3.3**

TO PROMOTE SAFE ALTERNATIVES TO MOTORIZED TRANSPORTATION THAT MEET THE NEEDS OF ALL CITY RESIDENTS.

**Objective 1.0**

Establish a master plan of bikeways which provides for an adequate system for the safe and efficient movement of cyclists.

Policy 1.a The City shall adopt a master plan of bikeways and shall develop and maintain bikeways as needed and feasible.

Police 1.b The City shall maximize opportunities for citizen input into the process of planning a bikeway system.

Policy 1.c The City shall pursue all available funding sources to acquire and develop off-road bike paths.

Policy 1.d The City shall maximize the use of public property (e.g., utility and drainage easements, railroad right-of-way) and lightly traveled scenic roads for bikeways.

**Objective 2.0**

Provide a system of sidewalks or pathways in residential and commercial areas that provides a safe environment for pedestrians and in harmonious with the surrounding neighborhood.

Policy 2.a The City shall require the provision of adequate pedestrian access for new development projects through its standard site plan review process.

Policy 2.b The City shall support the development of pedestrian malls in key activity centers.

Police 2.c The City shall require the installation of wheelchair ramps on all new sidewalks and shall encourage their installation in older neighborhoods.

**GOAL 3.4**

TO PROVIDE AN ADEQUATE SUPPLY OF PRIVATE OFF-STREET AND PUBLIC PARKING TO MEET THE NEEDS OF RESIDENTS AND VISITORS TO THE CITY.

**Objective 1.0**

Adopt an ordinance which specifies minimum parking requirements for various types of land use.

Policy 1.a The City shall enact an ordinance which establishes minimum parking requirements for specified residential, commercial retail, office, tourist-related, industrial, and institutional land uses.

Policy 1.b The City shall establish standard requirements such as necessary design features, the number of required handicapped parking spaces, etc. in conjunction with the parking ordinance.

Policy 1.c The City shall pursue methods of encouraging the provision of increased on-site parking supply through a range of techniques including redevelopment activities.

**Objective 2.0**

Ensure that developers of new projects or expansions provide adequate off-street parking.

Policy 2.a The City shall enforce its parking ordinance.

Policy 2.b The City shall require developers to provide adequate on-site parking and/or to contribute to a program to acquire and/or maintain off-site facilities.

Policy 2.c The City shall work cooperatively with developers and the business community to develop funding mechanisms for the construction of future parking facilities.

Policy 2.d The City shall encourage joint development of parking facilities to the maximum extent feasible.

# 4.0 THE CIRCULATION PLAN

## 4.1 RELATIONSHIP TO LAND USE AND ENVIRONMENT

The circulation plan proposed for Solana Beach has been developed to provide adequate capacity to accommodate the travel demands of the Land Use Element as well as to preserve the quality of life in Solana Beach. Exhibit 4 illustrates the proposed circulation plan.

### 4.1.1. Major Plan Features

The major plan features recommended by the General Plan Advisory Committee and the consultant team and reflected on Exhibit 4 include the following:

- Identification of several north-south roadways as Collector facilities, including Stevens Avenue/Valley Avenue, Cedros Avenue, Sierra Avenue (between Plaza Street and Via De La Valle), San Andres Drive, Highland Drive, and Santa Helena.

- Designation of Highway 101 as a Scenic Highway.

### 4.1.2 Functional Classification

The functional classification of a roadway is intended to establish its function or role in the overall circulation system. It establishes the hierarchy of streets in terms of their purpose in relation to movement of through traffic versus provision of access to adjacent land uses.

The hierarchy of roadway classifications ranges from freeways (with full control of access, grade-separated interchanges, high speed-high volume traffic, emphasis on longer-distance and intercity travel) to local streets/cur-de-sacs (with unlimited access to fronting properties, low speed-low volume traffic, emphasis on multi-purpose use of the paved street section for travel, parking, pedestrian, and bicycle activity).

Collector roadways vary in width from 50 foot right-of-way to 84 foot right-of-way. Major arterial roadways have a raised median within 102 foot right-of-way.

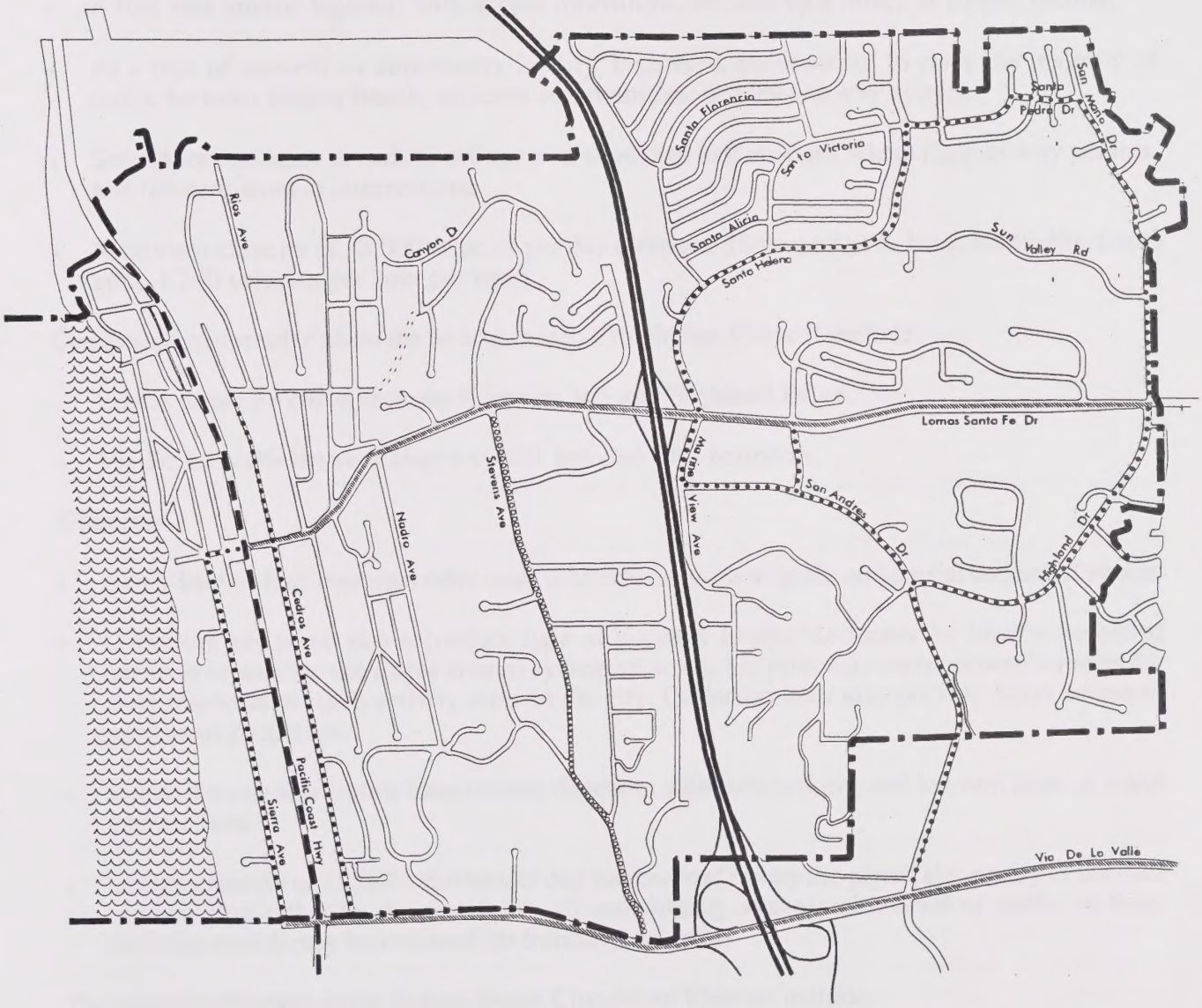
The following road classifications and functional characteristics have been designated in the Solana Beach Circulation Element (Exhibit 4).

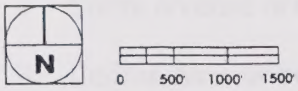
**Scenic Highway**

- A route with unique or special aesthetic and visual resources which should be protected and upgraded through sensitive highway design and the regulation of development within the scenic corridor.

- A route which provides a pleasant driving environment and community enhancement.

- Striped for one or two lanes in each direction with at least partial control of access and at least partial restriction of on-street parking.




Freeway
Scenic Highway
Major Arterial
Collector
Collector - Commercial
Local
Proposed Local


**Exhibit 4**
**Circulation Plan**

Highway 101 is classified as a state-designated scenic highway in the Solana Beach Circulation Element.

**Major Arterial**

- A four lane arterial highway with access limitations, divided by a raised or striped median.
- As a type of intercity or community facility, highways are expected to carry the majority of traffic between Solana Beach, adjacent communities, and the freeway system.
- Striped for two lanes in each direction, with shoulders and medians where right-of-way permits, and left-turn lanes at intersections.
- Maximum capacity of 38,000 vehicles per day (assumes 10 percent peak hour, 60/40 directional split, 1,200 vehicles per hour per lane).

Designated major arterials in the Solana Beach Circulation Element include:

- Lomas Santa Fe Drive between Highway 101 and Highland Drive.
- Via De La Valle between Highway 101 and east City boundary.

**Collector**

- A two-lane to four-lane undivided road with intersections at grade and partial control of access.
- Collectors can serve as a secondary type of highway to provide routes for locally-generated traffic to connect to the major arterial system network, but primarily serve as access routes for local residents to reach activity areas in the city. Collectors may also provide direct access to residential properties.
- Striped for one lane to two lanes in each direction, with curb parking, and left-turn lanes at major intersections.
- Design capacity of 10,000 vehicles per day (determined not by the physical capacity of the road segment, but rather by the desirability of maintaining an acceptable level of traffic on these facilities which may be bordered by fronting land uses).

Designated collectors in the Solana Beach Circulation Element include:

- Sierra Avenue between Plaza Street and Via De La Valle.
- Cedros Avenue between Via De La Valle and Cliff Street.
- Stevens Avenue between Lomas Santa Fe Drive and Valley Avenue (Collector-Commercial).
- Valley Avenue between Stevens Avenue and Via De La Valle (Collector-Commercial).
- San Andres Drive between Marine View Avenue and south City boundary.

- Marine View Avenue between Lomas Santa Fe Drive and San Andres Drive.
- Santa Helena between Lomas Santa Fe Drive and Santa Victoria.
- Santa Victoria between Santa Helena West and Santa Petra Drive.
- Santa Petra Drive between Santa Helena and San Mario Drive.
- San Mario Drive between Santa Petra Drive and Highland Drive.
- Highland Drive between San Andres Drive and east City boundary.
- Las Banderas Drive between Lomas Santa Fe Drive and San Andres Drive.

**Local**

- Two-lane undivided roads with at-grade intersections and frequent driveway access.
- Local roads are intended to provide access to adjacent residential land uses and to feed traffic to collectors and other roads of higher classification.
- Provide one lane in each direction, with curb parking, but not provided with centerline stripe.
- Design capacity of 2,000 vehicles per day determined not by the physical capacity of the road but rather the acceptable level of traffic which will not affect the quality of life in residential areas.

The remainder of the street. in the Solana Beach circulation system, not mentioned above, are classified as local streets.

### 4.1.3 Future Conditions With Proposed Plan

The upgrading of existing roadways to Circulation Element classifications and implementation of new circulation element roadway connections, together with the build-out of the land uses included in the Land Use Element, result in the future average daily traffic volumes illustrated in Exhibit ~~4~~. 3 Via De La Valle east of Valley Avenue/Jimmy Durante Boulevard is projected to continue to experience travel demands which exceed its design capacity. This condition will need to be addressed by cooperative City, County, and State improvements in the Via De La Valle/Interstate 5 interchange area.

The City should work cooperatively with Caltrans to maximize the capacity of Via De La Valle through access controls, signal timing optimization, installation of turn lanes, and so forth. The City should also monitor traffic conditions along Via De La Valle and implement policies which will make future development approvals contingent upon maintaining acceptable service levels along both Via De La Valle and Lomas Santa Fe Drive.

## 4.2 ALTERNATIVE MODES OF TRANSPORTATION

### 4.2.1 Public Transportation

No specific changes are proposed in the Circulation Element to the current level of public transit service in the city. The city will support improved transit services for the elderly and disabled persons and will support establishment of broader-based transit operations when demand levels warrant such a service.

### 4.2.2 Railroads/Airports

AMTRAK rail-passenger service is provided between Los Angeles and San Diego via the Coast Line and utilizes the Solana Beach station. Commuter rail service is provided to the Solana Beach station by the "Coaster."

### 4.2.3 Bicycle and Equestrian Trails

As existing facilities are improved and new roadway facilities are implemented, the City should consider the opportunity to incorporate bicycle routes or trails into the design of roadways. This would be particularly appropriate for San Andres Drive and Highland Drive.

### 4.2.4 Pedestrian Access

A separate system of off-road pedestrian trails is not proposed as part of the Circulation Element, but the City will strive to increase pedestrian accessibility by implementing the policies of the circulation element which call for the provision of sidewalks and wheelchair ramps along new facilities and the installation of same in older neighborhoods, where appropriate.

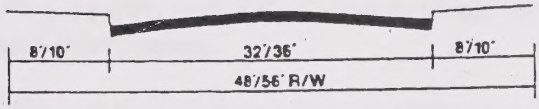
## 4.3 IMPROVEMENT FUNDING AND IMPLEMENTATION

In order to implement the goals, policies, and objectives of the Circulation Element, the City should undertake the following implementation strategies:

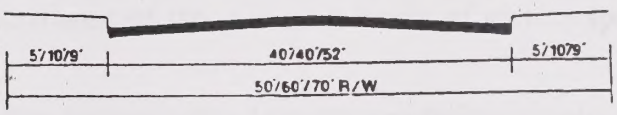
- Work with appropriate City, County, and State agencies to maximize the capacity of Via De La Valle, including improvements in the Via De La Valle/Interstate 5 interchange area.

- Develop a synchronization system for all existing and future traffic signals along Lomas Santa Fe Drive to function in a coordinated manner, particularly during peak hours. This system shall be coordinated with Caltrans facilities and City staff shall periodically (at least quarterly) review synchronization effectiveness and make necessary system adjustments.

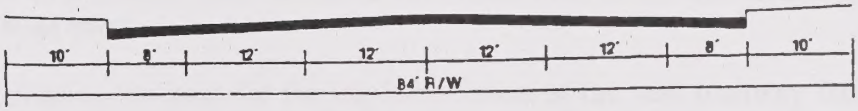
- Adopt roadway design standards to conform to the functional classification descriptions included in the Circulation Element and require that all new facilities be implemented in conformance with those standards. Most existing streets in the city were developed in conformance with County of San Diego Standards, which would serve as a good starting point for the development of Solana Beach Standards. Typical roadway cross sections are shown on Exhibit 5.



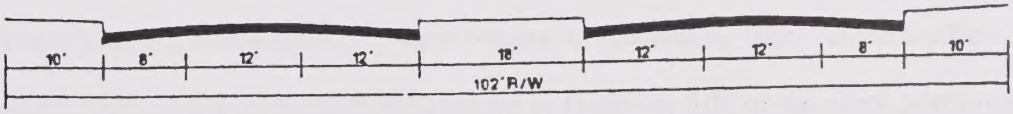

Local - Low Density




Collector
Local - High Density




Collector - Commercial




Major Arterial

# Exhibit 5
# Typical Roadway Cross-Sections

- Because streets within many residential areas were developed in conformance with County of San Diego standards, the Local Streets identified in Exhibit 4, Circulation Plan, will be improved to the width standards described in Exhibit 5 when such improvement is necessary to meet accepted traffic engineering safety and design requirements.

- Work with appropriate city, county, and state agencies to pursue improvements to the Lomas Santa Fe Drive/Interstate 5 interchange.

- Program into the City's Capital Improvement Program appropriate plan proposals contained in the Circulation Element, including the upgrading of existing roadways to appropriate standards.

- Adopt a specific roadway and traffic signal improvement fee to provide an additional source of local funds to finance upgrading of roadway facilities included in the Circulation Element.

- Develop a program to monitor traffic volumes and levels of service on Solana Beach roadways to facilitate the maintenance of the minimum levels of service specified in the Circulation Element.

- Objective 1.0 establishes the threshold of significance for determining when the traffic generated by a proposed development will have a significant negative environmental impact. The city should require traffic studies in conjunction with its development review process for development proposals.

- Develop a signage program which directs visitors to the Del Mar Fairgrounds to use preferred routes so as to minimize their intrusion into residential areas and their conflicts with local residential road users.

- Develop a phasing program for the implementation of the new roadway facilities shown on Exhibit 4, "The Circulation Plan". The phasing plan should give highest priority to facilities which will provide alternate routes to Lomas Santa Fe Drive for residents' use and which improve safety conditions for motorists and/or pedestrians or bicyclists.

- Study the feasibility of realigning Stevens Avenue and Glencrest Drive to meet at Lomas Santa Fe Drive as described in Policy 1.m.

- Study and implement methods to reduce congestion caused by local school traffic.

- Cooperate with efforts to study a realignment of Highway 101 in the north portion of the City and in Encinitas to reduce road closures during the rainy season.